

IN THE CLAIMS

Please cancel claims 1-19 and add the following new claims 20-40.

1-19. (Cancelled)

20. (New) A sensor assembly for measuring seatbelt forces comprising:

a rigid member having a first end for supporting a seat belt portion and a second end for attachment to a vehicle structure;

a strain gage mounted on said rigid member between said first and second ends for measuring the strain exerted on said rigid member by a tension force applied to the seat belt portion; and

an electrical connector mounted to said rigid member adjacent to said strain gage for receiving strain measurements from said strain gage and transmitting said measurements to a central processor to determine the magnitude of the tension force.

21. (New) An assembly according to claim 20 wherein said rigid member is a metallic plate defined by a length, width, and thickness with said length being greater than said width and said thickness being significantly less than said length and said width.

22. (New) An assembly according to claim 20 wherein said rigid member includes a neck portion positioned between said first and second ends having a width that is less than the width of said first and second ends and wherein said strain gage is mounted on said neck portion.

23. (New) An assembly according to claim 22 wherein said first end includes an elongated slot for a loop attachment to the seat belt portion and said second end includes at least one aperture for receiving a fastener for attachment to the vehicle structure.

24. (New) An assembly according to claim 23 wherein said electrical connector is mounted to said rigid member adjacent to said second end between said aperture and said neck portion.
25. (New) An assembly according to claim 20 wherein said electrical connector includes a main body portion for supporting at least one electrical component, said main body portion being directly mounted to said rigid member.
26. (New) An assembly according to claim 25 wherein said main body member comprises a rigid housing member and wherein said at least one electrical component comprises a microprocessor mounted within said rigid housing member.
27. (New) An assembly according to claim 20 wherein said first end of said rigid member is positioned at an angle relative to said second end of said rigid member.
28. (New) An assembly according to claim 27 wherein said rigid member includes a necked portion that is narrower than said first and second ends with said first end being positioned at an angle relative to said necked portion.
29. (New) A sensor system for controlling airbag deployment comprising:
a seat belt for securing an occupant to a vehicle seat;
a rigid plate having a first end for supporting a portion of said seat belt and a second end for attachment to a vehicle structure;
a strain gage mounted on said rigid plate between said first and second ends for measuring the strain exerted on said rigid plate by a tension force applied to said seat belt;
an electrical connector mounted to said rigid plate adjacent to said strain gage for receiving strain measurements from said strain gage and transmitting said measurements to a

processor to determine the magnitude of the tension force wherein said processor generates a force signal representative of the magnitude of said forces; and

an airbag mounted adjacent to the vehicle seat wherein airbag deployment is controlled based on said force signal.

30. (New) A system according to claim 29 wherein said airbag does not deploy when said force signal exceeds a predetermined limit.

31. (New) A system according to claim 29 wherein said rigid plate includes a neck portion positioned between said first and second ends, said neck portion having a width that is less than a width of said first and second ends and wherein said strain gage is mounted on said neck portion.

32. (New) A system according to claim 31 wherein said vehicle structure is a B-pillar extending vertically adjacent to one side of said seat.

33. (New) A system according to claim 31 wherein said vehicle structure is a seat mount for a seat belt buckle latch mechanism.

34. (New) A system according to claim 33 wherein said seat belt includes a buckle strap for supporting a male buckle member and said seat belt buckle latch mechanism includes a female receptacle for receiving said male buckle member to securely latch the occupant to said seat with said portion of said seat belt extending between said male receptacle and said rigid plate.

35. (New) A system according to claim 31 wherein said electrical connector includes a main body portion for supporting at least one electrical component and, said main body

portion being directly mounted to said rigid plate between said strain gage and said second end.

36. (New) A system according to claim 35 wherein said main body member comprises a rigid housing member and wherein said at least one electrical component comprises a microprocessor mounted within said rigid housing member.

37. (New) An assembly according to claim 36 wherein said first end of said rigid member is positioned at an angle relative to said second end and said neck portion of said rigid member.

38. (New) A method for measuring seatbelt forces for controlling airbag deployment comprising the steps of:

providing a sensor assembly including a rigid plate having a first end secured to a seatbelt portion, a second end secured to a vehicle structure, and a narrow neck portion interconnecting the first and second ends;

mounting a strain gage directly to the rigid plate on the narrow neck portion;

mounting an electrical connector directly to the rigid plate between the strain gage and the second end; and

measuring strain on the rigid plate due to seatbelt tension force with the strain gage.

39. (New) A method according to claim 38 including the step of mounting a printed circuit board to the electrical connector.

40. (New) A method according to claim 38 including the step of mounting an electronic control unit to the electrical connector.